

What is claimed is:

1. An apparatus for controlling an operation of a reciprocating  
5 compressor comprising: an inductance increasing device connected to a motor of  
the reciprocating compressor.

2. The apparatus of claim 1, wherein the inductance increasing  
device increases an inductance in order to cut off a surge current generated when  
10 power is applied to a motor of the reciprocating compressor at an initial stage.

3. The apparatus of claim 1, wherein the inductance increasing  
device is a reactor, wherein the reactor is connected in parallel to a capacitor that  
countervails an inductance of a coil wound in a motor of the reciprocating  
15 compressor, and cuts off a surge current applied to the motor at an initial stage, by  
increasing the inductance.

4. The apparatus of claim 3, further comprising an overcurrent  
cutting-off device connected to the inductance increasing device for increasing an  
20 inductance in series and for cutting off an overcurrent applied to the motor.

5. An apparatus for controlling an operation of a reciprocating  
compressor comprising:

an overcurrent cutting-off device connected in parallel to a capacitor that  
25 countervails an inductance of a coil wound in a motor of the reciprocating

compressor and for cutting off an overcurrent applied to the motor; and

a surge current cutting-off device connected to the overcurrent cutting-off device in series and for cutting off a surge current which is applied to the motor at an initial stage, by increasing an inductance.

5

6. The apparatus of claim 5, wherein the surge current cutting-off device is a reactor.

7. The apparatus of claim 5, wherein the overcurrent cutting-off  
10 device is a positive temperature coefficient thermistor or a relay.

8. The apparatus of claim 5, further comprising:

a voltage detecting unit for detecting a voltage applied to the reciprocating compressor according to the variation of a stroke of the reciprocating compressor;

15 a current detecting unit for detecting a current applied to the reciprocating compressor according to the variation of a stroke of the reciprocating compressor;

a microcomputer for calculating a stroke based on a voltage value detected by the voltage detecting unit and a current value detected by the current detecting unit, comparing the calculated stroke and a stroke reference value, and  
20 generating a switching control signal according to the comparison result; and

a power supply unit for supplying a stroke voltage to the reciprocating compressor by on-off controlling AC power supplied to the reciprocating compressor with an internal triac controlled by the switching control signal generated by the microcomputer.

25

9. An apparatus for controlling an operation of a reciprocating compressor having a capacitor that countervails an inductance of a coil wound in a motor of the reciprocating compressor for controlling cooling capacity further comprising:

5 an overcurrent cutting-off device connected to the capacitor in parallel and for cutting off an overcurrent generated when the reciprocating compressor is initiated at an initial stage; and

a surge current cutting-off device connected to the overcurrent cutting-off device in series and for cutting off a surge current generated when the  
10 reciprocating compressor is initiated at the initial stage, by increasing an inductance.

10. The apparatus of claim 9, wherein the surge current cutting-off device is a reactor.

15

11. The apparatus of claim 9, wherein the overcurrent cutting-off device is a positive temperature coefficient thermistor or a relay.